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EXAMINER	
RUTKOWSKI, JEFFREY M	

ART UNIT	PAPER NUMBER
2619	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/619,384	CORSON ET AL.	
	Examiner	Art Unit	
	JEFFREY M. RUTKOWSKI	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 1-3, 5-12, 18, 22, 23, 30, 33, 39, 40, 42-44, 46-49, 52, and 53** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta et al. (US 2001/0034228) in view of

Khalil et al. (US 6,578,085), hereinafter referred to as Khalil, and Daruwalla et al. (US Pat 7,058,007), hereinafter referred to as Daruwalla.

5. For **claims 1, 39, 46, 48, and 52,** Lehtovirta discloses a failure recovery operation where partial and complete network node failures are detected **[figure 10]**. In the case where a partial failure is detected, a list (fault signal) containing affected User Equipment (UE) and Radio Access Bearers (RABs) is generated and distributed among the network nodes. The network node that receives the list (fault signal) uses the list information to reset all affected RABs (fault response operation). Additionally, fault responses could also include a reset of all RABs for a particular UE and the resetting of signaling connections **[0044-0045]**.

6. The fault messages in Lehtovirta's invention are distributed among network nodes. Lehtovirta does not disclose the UEs (end nodes) receive a fault signal or perform a recovery operation. Daruwalla discloses an architecture where an modem (end node) initiates a fault response upon the reception of a failure announcement message from a Cable Modem Termination System (CMTS) (network node). In Daruwalla's invention the fault response performed by the modem is to cutover to a secondary path by connecting to another CMTS **[col. 14 lines 4-17, figures 6 and 7]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Daruwalla's fault recovery mechanism in Lehtovirta's invention to reduce delays caused by equipment failure or a network failure **[Daruwalla, col. 2 lines 50-55]**.

7. Lehtovirta doesn not disclose the generation of Mobile Internet Protocol (IP) signals. r, Khalil discloses generating, from Mobile IP signals directed to the end node or transmitted by the end node, a list of network nodes identifying network nodes used in routing signals to or from

the end node, the Mobile IP signals including at least one of a Mobile IP agent solicitation message, a Mobile IP agent advertisement message, a Mobile IP registration message and a Mobile IP registration reply message (see col. 5 lines 33-42). Thus, it would have been obvious to one of ordinary skill in the art to generate the list as taught by Khalil in the system of Lehtovirta. The motivation for doing so is to generate the list as mobiles register so that is no delay when the list needs to be accessed.

8. For **claims 2, 47, and 49,** Lehtovirta further teaches comparing network node information included in the received fault signal to information in the generated list identifying at least one network node used in routing signals to or from the end node (see paragraphs 44 and 45).

9. For **claim 3,** Lehtovirta further teaches determining the fault response operation as a function of information stored in the end node, the stored information relating to a plurality of possible operations (see paragraphs 44 and 45).

10. For **claim 5,** Lehtovirta further teaches using a list of network nodes to determine if the node is used in the routing of signals to the end node (see paragraph 44).

11. For **claims 6 and 42,** Lehtovirta discloses a failure recovery operation where partial and complete network node failures are detected **[figure 10]**. In the case where a partial failure is detected, a list (fault signal) containing affected User Equipment (UE) and Radio Access Bearers (RABs) is generated and distributed among the network nodes. The network node that receives the list (fault signal) uses the list information to reset all affected RABs (fault response operation). Additionally, fault responses could also include a reset of all RABs for a particular UE and the resetting of signaling connections **[0044-0045]**.

12. The fault messages in Lehtovirta's invention are distributed among network nodes. Lehtovirta does not disclose the UEs (end nodes) receive a fault signal or perform a recovery operation. Daruwalla discloses an architecture where an modem (end node) initiates a fault response upon the reception of a failure announcement message from a Cable Modem Termination System (CMTS) (network node). In Daruwalla's invention the fault response performed by the modem is to cutover to a secondary path by connecting to another CMTS **[col. 14 lines 4-17, figures 6 and 7]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Daruwalla's fault recovery mechanism in Lehtovirta's invention to reduce delays caused by equipment failure or a network failure **[Daruwalla, col. 2 lines 50-55]**.

13. Lehtovirta does not disclose the use of a proxy server, location register or a home agent. Khalil teaches the node being at least one of a Mobile IP home agent, a SIP proxy server, and a SIP location registrar (see col. 5 lines 33-42). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Khalil in the system of Lehtovirta. The motivation for doing so is to generate the list as mobiles register so that is no delay when the list needs to be accessed.

14. For **claim 7,** Lehtovirta further teaches the stored information includes information identifying a network node which is used by the end node as an access node through the end node is coupled to other nodes in the communications network (see paragraph 46; The RNC coupled to the base station is used by the end node as an access node.).

15. For **claim 8,** Lehtovirta further teaches the access node is a base station and the end node is a mobile device that is coupled to the base station by a wireless communications link (see Fig. 1 Boxes 28 and 30).

16. For **claims 9 and 33,** Lehtovirta further teaches generating at least a portion of the stored information identifying the network nodes used in routing signals to or from the end node from information included in signals sent to or from the end node (see paragraph 44). Lehtovirta teaches all the subject matter of the claimed invention with the exception of dynamically generating at least a portion of the stored information identifying the network nodes used in routing signals to or from the end node from information included in signals sent to or from the end node.

17. However, Khalil teaches dynamically generating at least a portion of the stored information identifying the network nodes used in routing signals to or from the end node from information included in signals sent to or from the end node (see col. 5 lines 33-42; The information is dynamically generated using registration messages.). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Khalil in the system of Lehtovirta. The motivation for doing so is to generate the list as mobiles register so that is no delay when the list needs to be accessed.

18. For **claim 10,** Lehtovirta teaches all the subject matter of the claimed invention with the exception of dynamically generating at least a portion of the stored information identifying network nodes includes: operating the end node to monitor for non-fault related signals and to generate at least some of the stored information from the monitored non-fault related signals.

19. However, Khalil teaches dynamically generating at least a portion of the stored information identifying network nodes includes: operating the end node to monitor for non-fault related signals and to generate at least some of the stored information from the monitored non-fault related signals (see col. 5 lines 33-42; The end node monitors for registration reply messages, and the list is generated from registration messages.). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Khalil in the system of Lehtovirta. The motivation for doing so is to generate the list as mobiles register so that is no delay when the list needs to be accessed.

20. For **claim 11,** Lehtovirta further teaches session signaling messages communicated to or from the end node (see paragraph 49).

21. For **claim 12,** Lehtovirta further teaches the non-fault related signals are routing messages (see paragraph 10).

22. For **claim 18,** Lehtovirta further teaches receiving a fault signal at a first network node; and sending a network node fault signal to the end node in response to receiving a fault signal (see paragraph 44).

23. For **claim 22,** Lehtovirta further teaches operating a plurality of additional end nodes to receive the fault signal; and operating each of the additional end nodes, in the plurality of additional end nodes, to determine if the network node fault corresponds to a network node that is used in routing of messages to or from the additional end node (see paragraphs 44 and 45).

24. For **claim 23,** Lehtovirta further teaches operating each additional end node which determines that the network node fault corresponds to a network node that is used in routing

messages to or from the additional end node, to initiate a fault response operation at the additional end node (see paragraphs 44 and 45).

25. For **claim 30,** Lehtovirta further teaches where the stored information includes information identifying a network node, in the list of network nodes, which is used by the end node (see paragraph 44). Lehtovirta teaches all the subject matter of the claimed invention with the exception of the node being used by the end node as at least one of a Mobile IP home agent, a SIP proxy server, and a SIP location registrar.

26. However, Khalil teaches the node being at least one of a Mobile IP home agent, a SIP proxy server, and a SIP location registrar (see col. 5 lines 33-42). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Khalil in the system of Lehtovirta. The motivation for doing so is to generate the list as mobiles register so that is no delay when the list needs to be accessed.

27. For **claims 40, 43, and 44,** Lehtovirta further teaches the device includes a wireless transmitter; and where means for receiving includes a radio receiver circuit (see Fig. 1 Box 30). Lehtovirta teaches all the subject matter of the claimed invention with the exception of generating, from Mobile IP signals directed to the end node or transmitted by the end node, a list of network nodes identifying network nodes used in routing signals to or from the end node, the Mobile IP signals including at least one of a Mobile IP agent solicitation message, a Mobile IP agent advertisement message, a Mobile IP registration message and a Mobile IP registration reply message.

28. However, Khalil teaches generating, from Mobile IP signals directed to the end node or transmitted by the end node, a list of network nodes identifying network nodes used in routing

signals to or from the end node, the Mobile IP signals including at least one of a Mobile IP agent solicitation message, a Mobile IP agent advertisement message, a Mobile IP registration message and a Mobile IP registration reply message (see col. 5 lines 33-42). Thus, it would have been obvious to one of ordinary skill in the art to generate the list as taught by Khalil in the system of Lehtovirta. The motivation for doing so is to generate the list as mobiles register so that is no delay when the list needs to be accessed.

29. For **claim 53,** Lehtovirta further teaches the device includes a wireless transmitter; and where means for receiving includes a radio receiver circuit (see Fig. 1 Box 30).

30. **Claims 4, 14, 25, 27, 28, 36, 37, 50, and 51** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Daruwalla.

31. For **claims 4, 25, 27, 28, 50 and 51**, Lehtovirta discloses a failure recovery operation where partial and complete network node failures are detected **[figure 10]**. In the case where a partial failure is detected, a list (fault signal) containing affected User Equipment (UE) and Radio Access Bearers (RABs) is generated and distributed among the network nodes. The network node that receives the list (fault signal) uses the list information to reset all affected RABs (fault response operation). Additionally, fault responses could also include a reset of all RABs for a particular UE and the resetting of signaling connections **[0044-0045]**.

32. The fault messages in Lehtovirta's invention are distributed among network nodes. Lehtovirta does not disclose the UEs (end nodes) receive a fault signal or perform a recovery operation. Daruwalla discloses an architecture where an modem (end node) initiates a fault response upon the reception of a failure announcement message from a Cable Modem Termination System (CMTS) (network node). In Daruwalla's invention the fault response

performed by the modem is to cutover to a secondary path by connecting to another CMTS **[col. 14 lines 4-17, figures 6 and 7]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Daruwalla's fault recovery mechanism in Lehtovirta's invention to reduce delays caused by equipment failure or a network failure **[Daruwalla, col. 2 lines 50-55]**.

33. For **claim 14,** Lehtovirta discloses a failure recovery operation where partial and complete network node failures are detected **[figure 10]**. In the case where a partial failure is detected, a list (fault signal) containing affected User Equipment (UE) and Radio Access Bearers (RABs) is generated and distributed among the network nodes. The network node that receives the list (fault signal) uses the list information to reset all affected RABs (fault response operation). Additionally, fault responses could also include a reset of all RABs for a particular UE and the resetting of signaling connections **[0044-0045]**.

34. The fault messages in Lehtovirta's invention are distributed among network nodes. Lehtovirta does not disclose the UEs (end nodes) receive a fault signal or perform a recovery operation. Daruwalla discloses an architecture where an modem (end node) initiates a fault response upon the reception of a failure announcement message from a Cable Modem Termination System (CMTS) (network node). In Daruwalla's invention the fault response performed by the modem is to cutover to a secondary path by connecting to another CMTS **[col. 14 lines 4-17, figures 6 and 7]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Daruwalla's fault recovery mechanism in Lehtovirta's invention to reduce delays caused by equipment failure or a network failure **[Daruwalla, col. 2 lines 50-55]**.

35. For **claim 36,** Lehtovirta further teaches operating a plurality of additional end nodes to receive the fault signal; and operating each of the additional end nodes, in the plurality of additional end nodes, to determine if the network node fault corresponds to a network node that is used in routing of messages to or from the additional end node (see paragraphs 44 and 45).

36. For **claim 37,** Lehtovirta further teaches operating each additional end node which determines that the network node fault corresponds to a network node that is used in routing messages to or from the additional end node, to initiate a fault response operation at the additional end node (see paragraphs 44 and 45).

37. **Claims 13 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Daruwalla and Hippelainen et al. (US 2004/0081086).

38. For **claims 13 and 34,** Lehtovirta discloses a failure recovery operation where partial and complete network node failures are detected **[figure 10]**. In the case where a partial failure is detected, a list (fault signal) containing affected User Equipment (UE) and Radio Access Bearers (RABs) is generated and distributed among the network nodes. The network node that receives the list (fault signal) uses the list information to reset all affected RABs (fault response operation). Additionally, fault responses could also include a reset of all RABs for a particular UE and the resetting of signaling connections **[0044-0045]**.

39. The fault messages in Lehtovirta's invention are distributed among network nodes. Lehtovirta does not disclose the UEs (end nodes) receive a fault signal or perform a recovery operation. Daruwalla discloses an architecture where an modem (end node) initiates a fault response upon the reception of a failure announcement message from a Cable Modem Termination System (CMTS) (network node). In Daruwalla's invention the fault response

performed by the modem is to cutover to a secondary path by connecting to another CMTS **[col. 14 lines 4-17, figures 6 and 7]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Daruwalla's fault recovery mechanism in Lehtovirta's invention to reduce delays caused by equipment failure or a network failure **[Daruwalla, col. 2 lines 50-55]**.

40. Lehtovirta does not disclose the use of a Mobile IP registration operation in response to the fault. Hippelainen teaches releasing a resource link and a Mobile IP registration operation in response to the fault (see paragraph 5). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Hippelainen in the system of Lehtovirta. The motivation for doing so is to make the system more reliable.

41. **Claims 15-17 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta et al. (US 2001/0034228) in view of Khalil and Daruwalla, as applied to **claims 6 and 22** above, and further in view of Bender et al. (US 2003/0016629).

42. For **claim 15,** Lehtovirta teaches sending a fault message in response to a fault condition (see paragraph 44). Lehtovirta in view of Khalil teaches all the subject matter of the claimed invention with the exception of sending a status request signal from a first network node to a second network node; receiving a response to the status request signal; and sending a network node fault signal to the end node when the response indicates a fault condition. However, Bender teaches sending a status request signal from a first network node to a second network node (see paragraph 35 lines 1-3); and receiving a response to the status request signal.

43. Thus, it would have been obvious to one of ordinary skill in the art to use the system of Bender in the system of Lehtovirta in view of Khalil. The motivation for doing so is the network management device can actively detect a fault without waiting for a fault notification from a different node.

44. For **claims 16 and 24,** Lehtovirta in view of Khalil teaches all the subject matter of the claimed invention with the exception of periodically sending a status request signal and determining a fault from the lack of a response. However, Bender teaches periodically sending a status request signal from a first network node to a second network node (see paragraph 35 lines 1-3; A message is sent to a node and the node waits for a predetermined time period for a response. After the time period expires, if no response is received, the node sends another message.), and sending a network node fault signal to the end node when a response to at least one of the periodically received status request signals is not received (see paragraph 35 lines 10-13; Once the number of times no response has been received from the message crosses a threshold, a fault is considered to have occurred.).

45. Thus, it would have been obvious to one of ordinary skill in the art to use the system of Bender in the system of Lehtovirta in view of Khalil. The motivation for doing so is the network management device can actively detect a fault without waiting for a fault notification from a different node.

46. For **claim 17,** Lehtovirta in view of Khalil teaches all the subject matter of the claimed invention with the exception of counting the number of consecutive status request signals sent for which a response is not received and sending a fault signal in response to determining that the maintained count at least equals a threshold number. However, Bender teaches maintaining a

count of the number of consecutive status request signals sent to the second node for which a response is not received (see paragraph 35 lines 10-12) and a fault is determined in response to determining that the maintained count at least equals a threshold number (see paragraph 35 lines 10-12).

47. Thus, it would have been obvious to one of ordinary skill in the art to use the system of Bender in the system of Lehtovirta in view of Khalil. The motivation for doing so is the network management device can actively detect a fault without waiting for a fault notification from a different node.

48. **Claims 19-21 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Khalil and Daruwalla as applied to **claim 18** above, and further in view of Shah (US 5,390,326).

49. For **claims 19-21 and 41,** Lehtovirta teaches sending signals to a plurality of end nodes (see paragraphs 44 and 45). Khalil teaches sending fault messages using internet protocol (see paragraphs 4 and 5). Lehtovirta in view of Khalil teaches all the subject matter of the claimed invention with the exception of periodically sending fault signals to a plurality of end nodes at preselected time intervals and monitoring for fault signals at preselected time intervals.

50. However, Shah teaches periodically sending fault signals to a plurality of end nodes at preselected time intervals (see col. 4 lines 44-46 and 53-59); and operating at least some of the plurality of end nodes to monitor for fault signals at the preselected time intervals but not between the preselected time intervals (see col. 4 lines 44-46). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Shah in the system of Lehtovirta in view of

Khalil. The motivation for doing so is to allow the nodes only have to monitor for fault signals at the time intervals selected, which allows the nodes to reduce processing power previously spent on constantly monitoring for fault signals.

51. **Claim 31** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Daruwalla and Gomez (US 6,178,327).

52. **Regarding claim 31,** Lehtovirta discloses a failure recovery operation where partial and complete network node failures are detected **[figure 10]**. In the case where a partial failure is detected, a list (fault signal) containing affected User Equipment (UE) and Radio Access Bearers (RABs) is generated and distributed among the network nodes. The network node that receives the list (fault signal) uses the list information to reset all affected RABs (fault response operation). Additionally, fault responses could also include a reset of all RABs for a particular UE and the resetting of signaling connections **[0044-0045]**.

53. The fault messages in Lehtovirta's invention are distributed among network nodes. Lehtovirta does not disclose the UEs (end nodes) receive a fault signal or perform a recovery operation. Daruwalla discloses an architecture where an modem (end node) initiates a fault response upon the reception of a failure announcement message from a Cable Modem Termination System (CMTS) (network node). In Daruwalla's invention the fault response performed by the modem is to cutover to a secondary path by connecting to another CMTS **[col. 14 lines 4-17, figures 6 and 7]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Daruwalla's fault recovery mechanism in Lehtovirta's invention to reduce delays caused by equipment failure or a network failure **[Daruwalla, col. 2 lines 50-55]**.

54. Lehtovirta does not disclose the mobile node including the list of nodes and the fault responses. However, Gomez teaches the mobile node including the list of nodes and fault responses (see col. 4 line 65 - col. 5 lines 24). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Gomez in the system of Lehtovirta. The motivation for doing so is to make the system more flexible by allowing the mobile to select the fault response.

55. **Claim 32** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Gomez and Daruwalla as applied to **claim 31** above, and further in view of Khalil.

56. For **claim 32,** Lehtovirta does not disclose generating, from Mobile IP signals directed to the end node or transmitted by the end node, a list of network nodes identifying network nodes used in routing signals to or from the end node, the Mobile IP signals including at least one of a Mobile IP agent solicitation message, a Mobile IP agent advertisement message, a Mobile IP registration message and a Mobile IP registration reply message.

57. However, Khalil teaches generating, from Mobile IP signals directed to the end node or transmitted by the end node, a list of network nodes identifying network nodes used in routing signals to or from the end node, the Mobile IP signals including at least one of a Mobile IP agent solicitation message, a Mobile IP agent advertisement message, a Mobile IP registration message and a Mobile IP registration reply message (see col. 5 lines 33-42). Thus, it would have been obvious to one of ordinary skill in the art to generate the list as taught by Khalil in the system of Lehtovirta in view of Gomez. The motivation for doing so is to generate the list as mobiles register so that is no delay when the list needs to be accessed.

58. **Claim 35** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta (US 2001/0034228) in view of Daruwalla, as applied to **claim 25**, and further in view of and Shah (US 5,930,326).

59. For **claim 35,** Lehtovirta teaches sending signals to a plurality of end nodes (see paragraphs 44 and 45). Lehtovirta does not disclose periodically sending fault signals to a plurality of end nodes at preselected time intervals and monitoring for fault signals at preselected time intervals.

60. However, Shah teaches periodically sending fault signals to a plurality of end nodes at preselected time intervals (see col. 4 lines 44-46 and 53-59); and operating at least some of the plurality of end nodes to monitor for fault signals at the preselected time intervals but not between the preselected time intervals (see col. 4 lines 44-46). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Shah in the system of Lehtovirta in view of Khalil. The motivation for doing so is to allow the nodes only have to monitor for fault signals at the time intervals selected, which allows the nodes to reduce processing power previously spent on constantly monitoring for fault signals.

61. **Claim 38** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta in view of Daruwalla, as applied to **claim 25**, and further in view of Keller et al. (US 2004/0049565).

62. For **claim 38**, Lehtovirta teaches the service interference notification signal is a message indicating a fault (see paragraphs 44 and 45). Jain teaches all the subject matter of the claimed invention with the exception that a fault is a service outage. Keller et al. teach that a service outage is failure of the system, which is considered a fault (see paragraph 15 lines 1-5).

63. Thus, it would have been obvious to one of ordinary skill in the art to use the method of Keller in the system of Lehtovirta. The motivation for using the method of Keller in the system of Lehtovirta is in the event of the failure of a node in the network, which would cause a break in the connections between the node, to have the system recognize that as a fault.

64. **Claim 45** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtovirta et al. (US 2001/0034228) in view of Khalil and Daruwalla, as applied to **claim 44** above, and further in view of Hippelainen et al. (US 2004/0081086).

65. For **claim 45,** Lehtovirta does not disclose the use of a Mobile IP registration operation in response to the fault. However, Hippelainen teaches releasing a resource link and a Mobile IP registration operation in response to the fault (see paragraph 5). Thus, it would have been obvious to one of ordinary skill in the art to use the system of Hippelainen in the system of Lehtovirta in view of Khalil. The motivation for doing so is to make the system more reliable.

Response to Arguments

66. Applicant's arguments with respect to **claims 1-45** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

67. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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